The Use of Pulsed Field Gel Electrophoresis and Automated Ribotyping to Monitor the Increased Prevalence of a Multidrug Resistant *Salmonella* Serotype Newport in Massachusetts Associated with Cows

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A strain of multidrug resistant *Salmonella* serotype Newport (MDR S. Newport) has recently emerged in the United States, first appearing in Massachusetts in April 1999. This strain is characterized by resistance to at least ampicillin, cephalothin, chloramphenicol, clavulanic acid, streptomycin, sulfamethoxazole, tetracycline and ceftriaxone. Between January 1999 and December 2001 167 human and 17 bovine isolates were identified as *S*. Newport at the Massachusetts State Laboratory Institute (SLI). The prevalence of MDR *S*. Newport rose from 23% in 1999 to 49% in 2000 to 54% in 2001. All 17 bovine isolates were MDR *S*. Newport, whereas 66 of the human isolates were MDR *S*. Newport suggesting a bovine reservoir for this particular strain of *S*. Newport. Automated ribotyping discriminated *S*. Newport from other serotypes and correctly identified MDR *S*. Newport as one of two dominant ribotypes. There were 71 pulsed field gel electrophoresis (PFGE) patterns of XbaI digests of *S*. Newport in both MDR *S*. Newport (n=8) and other *S*. Newport (n=63). The dominant PFGE pattern in the MDR S. Newport isolates was MA-JJP0034. Thirteen of 17 the bovine and 43 of the 66 human isolates displayed this pattern. Thus, both typing methods were helpful in identifying the MDR strain of *S*. Newport; however, automated ribotyping was particularly useful in rapidly identifying the serotype and PFGE in detecting associations that aided epidemiologic investigations.

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